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(54) IMPROVEMENTS IN OR RELATING TO STUDS FOR FOOTWEAR

(71) I, BERNARD FREDERICK BROOKER, a British subject, of Silver Birches, Balcombe Road, Crawley, Sussex, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to studs for footwear, particularly for sports wear.

According to the present invention, a stud for footwear comprises a head of plastics material, such as polyvinyl chloride composition, moulded onto an insert or shank or an acetal resin, having a keying formation within the head.

The keying formation may consist of a flange having holes therein for the plastics material to flow into during moulding.

An alternative and preferred form of keying formation is a flange having two or more crossing arch formations, which may have a projection in the space beneath the formations. As an alternative, the arch formations may be asymmetric.

It has been found that a nylon or similar insert has a number of advantages over the conventional steel insert. In particular, owing to its resilience it can be screwed into a conventional metal socket to sufficient tightness for security without the use of a spanner, it will not rust into such a socket, and is easy to remove from the socket. It can also be used with a socket of nylon or like material. There is no protruding metal when the head wears away, so that the risk of inflicting an injury is reduced.

The invention will be further described with reference to the drawing accompanying the provisional specification and the accompanying drawing.

In the drawing accompanying the Provisional Specification:

Figure 1 is one perspective view of a preferred form of shank or insert;

Figure 2 is a perspective view of an

alternative form of shank or insert; and 50

Figure 3 is an elevation of a complete stud including a shank or insert.

In the accompanying drawing:

Figure 4 is a side elevation of a further alternative form of insert; and 55

Figure 5 is a plan view of the insert of Figure 4.

Referring first to the drawing accompanying the Provisional Specification, Figure 1 shows an insert comprising a stem 1 threaded over most of its length as shown at 2 for reception in a conventional socket embedded in the sole or heel construction on a football boot or the like. The stem 1 terminates in a keying formation to ensure that the stud head, when moulded onto the insert, is fixed in relation thereto. The formation includes a flange 3 having a pair of holes 4 therethrough and also including arch formations 5 having a space thereunder through which the material can flow during moulding. In order to limit the size of this space somewhat, there is provided on the side of the flange beneath the arch formations an upstanding ridge formation 6. The insert is a completely integral moulding of nylon or other suitable material, such as that sold under the Registered Trade Mark "Delrin", which is an acetal resin. 80

Figure 2 shows a simpler form of insert in which the stem 1 extends as an extension 1a beyond the flange 3, and the keying formations merely consist of a plurality of holes 4 in the flange. 85

Figure 3 shows a complete stud comprising an insert having a stem 1 and a threaded portion 2, and a head 7 moulded onto the stem and cooperating with its keying formation. 90

The head is preferably of a polyvinylchloride composition and can be seen to be somewhat concave, as shown at 8 to provide some resilience to ensure that when the complete stud is screwed into a socket, there is tension applied to the threads 2. On its external face, the head is provided with projections 9 which give a finger grip 95

for ease of screwing the stud in or out of a socket.

Referring now to the accompanying drawing, the insert shown is similar to that described with reference to Figure 1, but the holes 4 and the projection 6 have been omitted. The arch formations 5 are modified so as to be asymmetric in form, and have wide and narrow side faces 5a and 5b linked by oblique inner faces 10. The faces 5a and 5b are arranged adjacent similar faces on the adjacent arch formations 5 so that the arched keying zones formed between them are alternatively high and low arches.

Various modifications may be made within the scope of the invention.

WHAT I CLAIM IS:—

1. A stud for footwear comprising a head of plastics material moulded onto an insert or shank of thermoplastics material having a keying formation within the head.
2. A stud as claimed in claim 1, in which the head is of a polyvinylchloride composition.
3. A stud as claimed in claim 1 or 2, in which the insert or shank is of nylon or an acetal resin.
4. A stud as claimed in any of claims

1 to 3, in which the keying formation is a flange having holes therein.

5. A stud as claimed in any of claims 1 to 3, in which the keying formation is a flange having crossing arch formations.

6. A stud as claimed in claim 5, in which the flange also has holes there-through.

7. A stud as claimed in claim 5 or 6, in which the flange also carries a projection beneath the crossing arch formations.

8. A stud as claimed in claim 5 or 6, in which the arch formations are asymmetric, with differing side faces opposed to similar side faces of adjacent arch formations.

9. A stud as claimed in any of claims 5 to 8, comprising a pair of crossing arch formations.

10. A stud for footwear substantially as hereinbefore described with reference to the drawing accompanying the provisional specification.

11. A stud as claimed in claim 10, modified substantially as hereinbefore described with reference to the accompanying drawing.

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